

# CALIFORNIA PHENOLOGY TCN – QUARTERLY REPORT – MAY 2020

Assembled by Katie Pearson, 4 May 2020

## PROGRESS IN DIGITIZATION EFFORTS:

Figure 1 shows our progress in imaging, transcribing, georeferencing, and phenologically scoring the target specimens for our project, explained more in detail in the following sections.

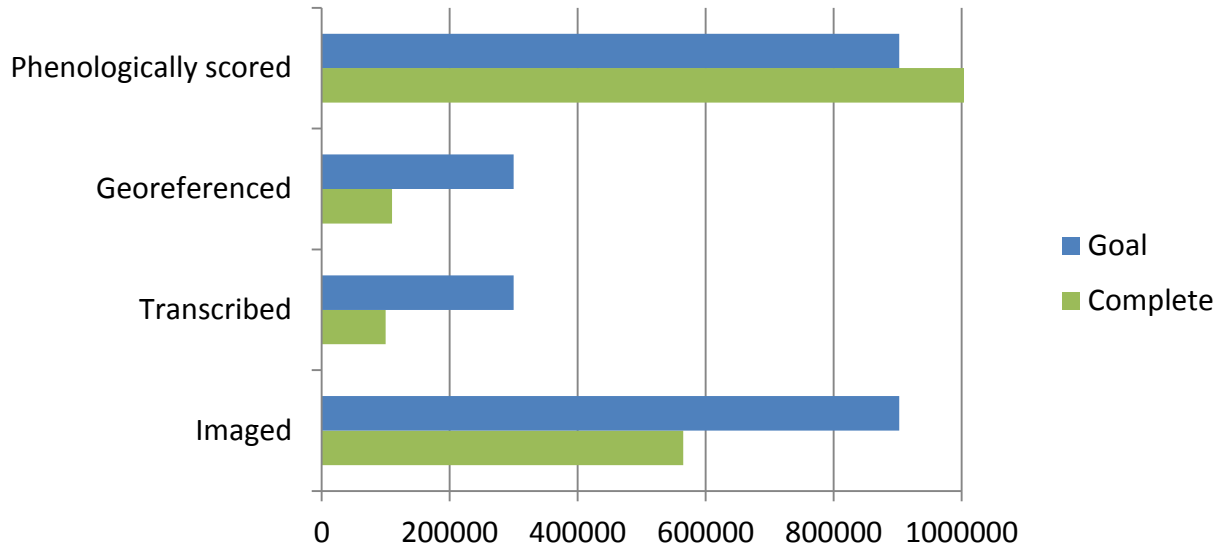


Figure 1

## IMAGING

Imaging proceeded as normal until the California shelter-at-home order on March 19, 2020. After this date, only two institutions (DAV, SBBG) have been able to continue imaging. Eighteen of the 22 institutions are currently unable to work in their physical collections. Instead, work at most institutions has been shifted toward transcription and georeferencing. Figure 2 shows the distribution of unprocessed, barcoded/processed, and imaged target specimens per institution as of April 30, 2020.



**Figure 2.** Digitization progress, in terms of number of specimens imaged, barcoded, or not yet processed. Bars above the zero line indicate specimens that have been processed in preparation for imaging or have been imaged. The green portions of these bars represent the number of specimens that have been imaged. Red bars below the zero line indicate the number of target specimens (i.e., specimens to be imaged as part of the CAP TCN) that have not yet been pre-processed or imaged.

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## TRANSCRIPTION

An estimated 99,718 specimen records have been transcribed across the CAP Network since July 2019. This is approximately 33% of the goal number of transcriptions to be produced by this project.

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## GEOREFERENCING

Since July 2019, 110,074 specimen records from CAP institutions have been georeferenced in CCH2. This is approximately 37% of the goal number of georeferences to be produced by this project.

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## PHENOLOGICAL SCORING

Because of the trait mining tool developed in our CCH2 portal, we were able to use text data from multiple DarwinCore fields to score the phenological status of an enormous number of herbarium specimens. To date, over 1,300,000 specimens have been phenologically scored, which means that we

have surpassed our phenological scoring goal by over 144% percent. For this reason, current efforts to develop taxon-specific phenological scoring protocols have been postponed in favor of focusing on transcription and georeferencing.

#### SHARE AND IDENTIFY BEST PRACTICES AND STANDARDS (INCLUDING LESSONS LEARNED)

Due to the COVID-19 crisis, much in-person and on-site work has been slowed or halted in our partner institutions. However, because our database is web accessible, we have still been able to maintain productivity. Institutions that still have student workers, volunteers, or other technicians have been encouraged to have their workers trained in online tasks using the available training resources, then have those workers attend co-working “office hours.”

The project manager has been hosting daily Zoom “office hours” during which data-transcribers and georeferencers from any institution can log in and virtually co-work with other attendees. Having the PM present allows the participants to ask questions as they come up, and participants can show their screens to explain issues. After about 30 minutes of work (sessions are 1 hour in length), the PM shares pictures and some interesting tidbits about a “plant of the day,” with the purpose of providing a social interlude and brief break from intensive work. Zoom office hours are now held three times per week and generally host 5-10 attendees per session.

#### IDENTIFY GAPS IN DIGITIZATION AREAS AND TECHNOLOGY

We are continuing to develop the functionality of our CCH2 data portal. Currently, we lack a way to search by, download, and visualize specimens’ phenological scorings, though these data currently exist. We are also developing a way to track who downloads our data and for what purpose.

#### SHARE AND IDENTIFY OPPORTUNITIES TO ENHANCE TRAINING EFFORTS

A webinar on georeferencing using CCH2 was hosted by Katie Pearson (PM) and Mare Nazaire (Rancho Santa Ana) on February 26, 2020 and had 29 participants. The webinar recording has proven vital for our continued training efforts as many institutions turn to remote working. The YouTube recording of this webinar (<https://youtu.be/hrXiZ2tsuRM>) has been viewed 98 times.

An illustrated georeferencing guide was also developed based off the existing protocol to help beginning georeferencers successfully apply georeferencing protocols. All georeferencing resources for CAP, including a link to the webinar, are compiled on the Georeferencing page of our website: <https://www.capturingcaliforniasflowers.org/georeferencing.html>

An all-CAP conference call was conducted on February 7<sup>th</sup>, 2020 to bring everyone up to speed with recent developments. The leadership team demonstrating the many georeferencing tools available in CCH2, updated the group on the development of the phenological scoring tools, and discussed other announcements. The PM held individual check-in calls with each institution once in March and once in April. As these occurred right at the turn of the COVID-19 situation, we were able to discuss remote working options and ensure collaborators had a tangible way forward despite the chaos.

The PM has been in constant contact with most PIs to suggest and discuss ways of retaining productivity during the shelter-at-home period. As previously described, we are encouraging collaborators to get their workers trained to work remotely (transcribe and georeference specimen records) via our existing resources and to participate in the PM's weekly office hours.

## SHARE AND IDENTIFY COLLABORATIONS WITH OTHER TCNS, INSTITUTIONS, AND ORGANIZATIONS

Personnel from the Green Diamond Resource Company herbarium contacted us about getting their data hosted in the CCH2 portal. We incorporated their data in late February, and it is now live-hosted in CCH2 with 443 specimen records. This collection had never previously been published and has not yet registered with Index Herbariorum.

We are continuing to reach out to California Native Plant Society (CNPS) chapters to recruit their members to contribute via Notes from Nature. The lead PI and PM will co-present a Zoom seminar for the North Coast chapter of the CNPS on May 13<sup>th</sup>.

We are working with the CSU San Bernardino Water Resources Institute to potentially re-task previous USDA interns to working on our project. These interns were unable to continue their internships due to the shelter-at-home order, and we reached out to them to see whether these interns could be trained and mobilized for transcription and georeferencing.

## SHARE AND IDENTIFY OPPORTUNITIES AND STRATEGIES FOR SUSTAINABILITY:

Following the retirement of the PI at Humboldt State University, the previous "snapshot" of the HSC herbarium database, which was managed locally, was switched over to live management in CCH2. This will enable the collections manager and the new herbarium director to manage these data more sustainably.

All training videos previously hosted via the iDigBio Adobe Connect account have been transferred to YouTube as per iDigBio's request.

Two CAP collections were newly registered as collections in GBIF this quarter, bringing the total to 15 of 22 partners publishing data to this global aggregator.

## SHARE AND IDENTIFY EDUCATION AND OUTREACH (E&O) ACTIVITIES:

The PM shares updates on the project and phenology-related news via the network Twitter account (@CalPhenologyTCN).

Around the time of the shelter-at-home order in California, we reached out to California Native Plant Society chapters to remind them of the possibility of volunteering from home using Notes from Nature. We developed and disseminated a short video (<https://youtu.be/Fh2Rg39qm-0>) that introduces the CAP

project and shows potential participants how to get started on Notes from Nature. This video currently has 159 views.

Due to increases in Notes from Nature participation, two expeditions were completed in late March 2020, resulting in 4,372 specimens from three institutions (CSLA, IRVC, LOB) being fully transcribed and their data imported into CCH2. We launched two additional expeditions for two institutions (CSLA, IRVC) in early April.

The PM remotely presented about the CAP project for a museum curation class led by Katja Seltmann (UCSB) on April 7<sup>th</sup>, 2020. The students were also taught to transcribe records in CCH2 in collaboration with the UCSB collections manager, Greg Wahlert.

Three blog posts were written and published to the CAP website:

<https://www.capturingcaliforniasflowers.org/blog-recap>.

Initial development of the Course-based Undergraduate Research Experience curriculum (Plant phenology using herbarium specimens) was concluded in mid-March. Jenn Yost and Katie Pearson are now running the course virtually (due to COVID-19) for the spring 2020 quarter at Cal Poly. Nineteen students are enrolled in this course.